

Anomalous hemoglobin-oxygen dissociation. The 1968 document has misquoted (9) Birnstingl et al. The authors explain the increased hemoglobin affinity for oxygen in smokers as almost entirely due to carbon monoxide. Portions of the Discussion and Summary are as follows:

The Effect of Smoking.—The increase in oxygen affinity found in smokers appeared mainly due to high concentrations of carbon monoxide in the blood of the smokers (Haldane-Smith effect). When the oxygen saturation values had been corrected for HbCO content, the mean oxygen affinity of the group of smokers was much reduced, but it remained significantly above that of the group of non-smokers. This small residual increase remains unexplained. It is unlikely to be due to methaemoglobin, as this was estimated in a few of the samples and the concentrations were found to be low (less than 2 per cent).

SUMMARY

A study has been made of the effects of age, smoking, and Buerger's disease on oxyhaemoglobin dissociation.

Healthy male subjects over 40 years of age have a blood oxygen affinity which is greater than that of a similar group under this age. This would result in a shift to the left of the oxyhaemoglobin dissociation curve.

Cigarette smokers also have an increased oxygen affinity, but this is almost entirely due to a raised carbon monoxide haemoglobin level.

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